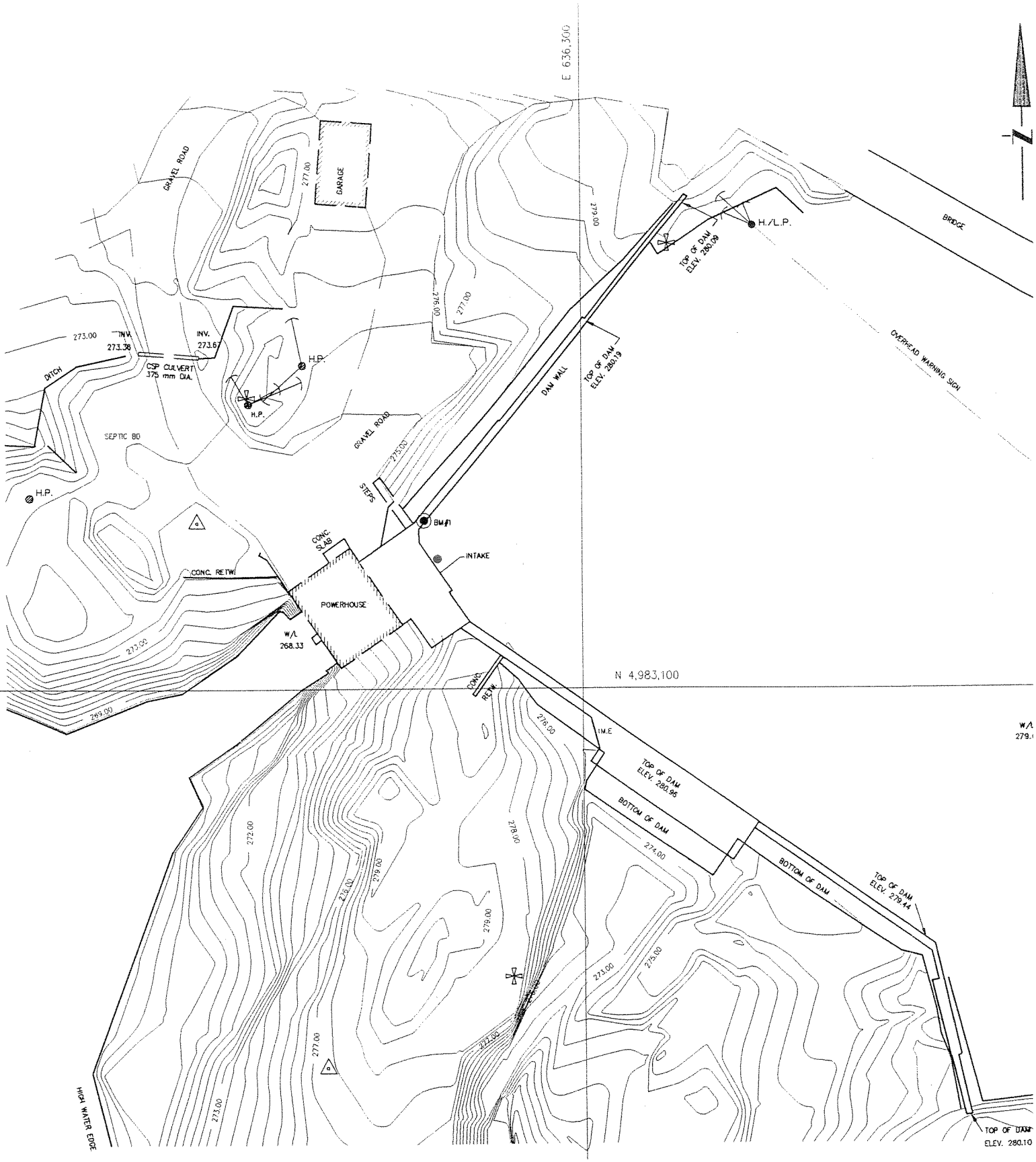
Appendix G

Waterpower Facility Monitoring Locations

Ontario Power Generation

- **Trethewey Falls GS**
- **Hanna Chute GS**
- **South Falls GS**
- **Bala Reach/Ragged Rapids GS**
- **Big Eddy GS**

Station	Transducer Type	Manufacturer	Accuracy Maintained	Frequency Read	Staff Gauge
Trethewey Falls	Ultrasonic	Milltronics	+/- 0.01 m	Hourly	Yes
Hanna Chute	Pressure	Instrumentation Northwest	+/- 0.01 m	Hourly	Yes
South Falls	Pressure	Instrumentation Northwest	+/- 0.01 m	Hourly	Yes
Bala Reach	Float/Potentiometer	Bristol/Moore Industries	+/- 0.01 m	Hourly	Yes
Big Eddy	Ultrasonic	Milltronics	+/- 0.01 m	Hourly	Yes



TRETHEWEY FALLS SITE PLAN

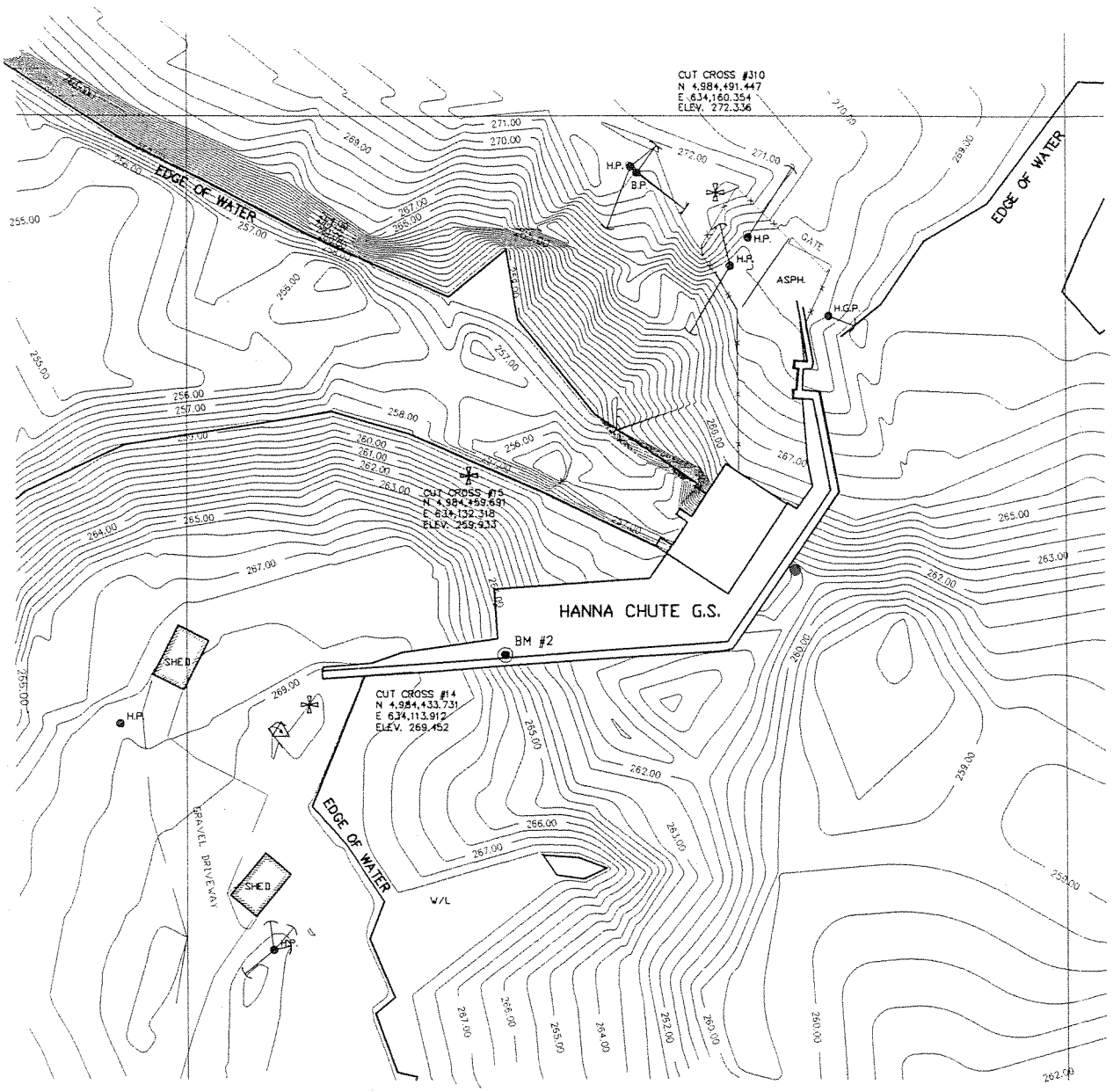
1:200

5 2.5 0 5

1:100

millimetres

0 10 50 100 200 250 300



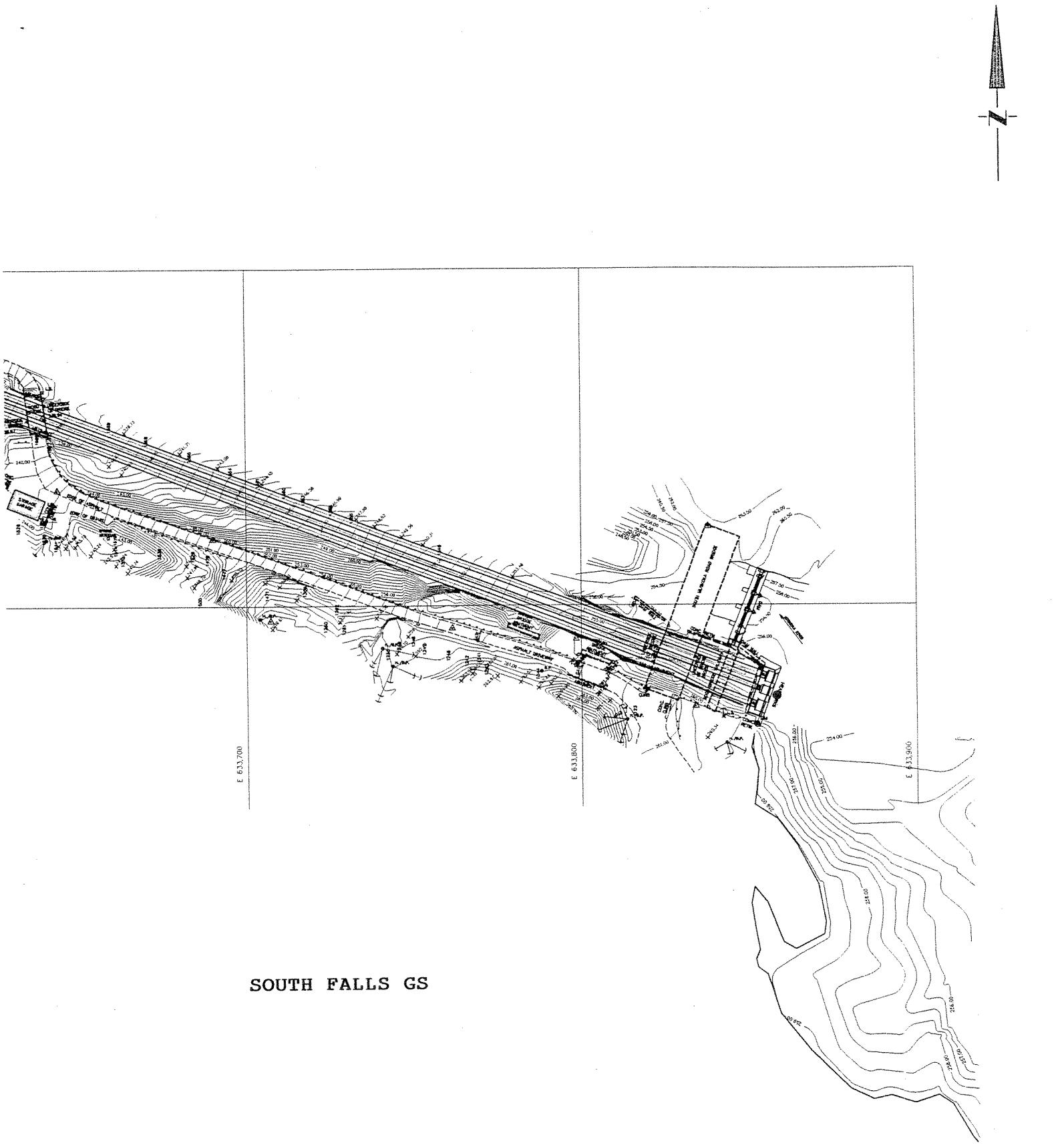
HANNA CHUTE KEY PLAN

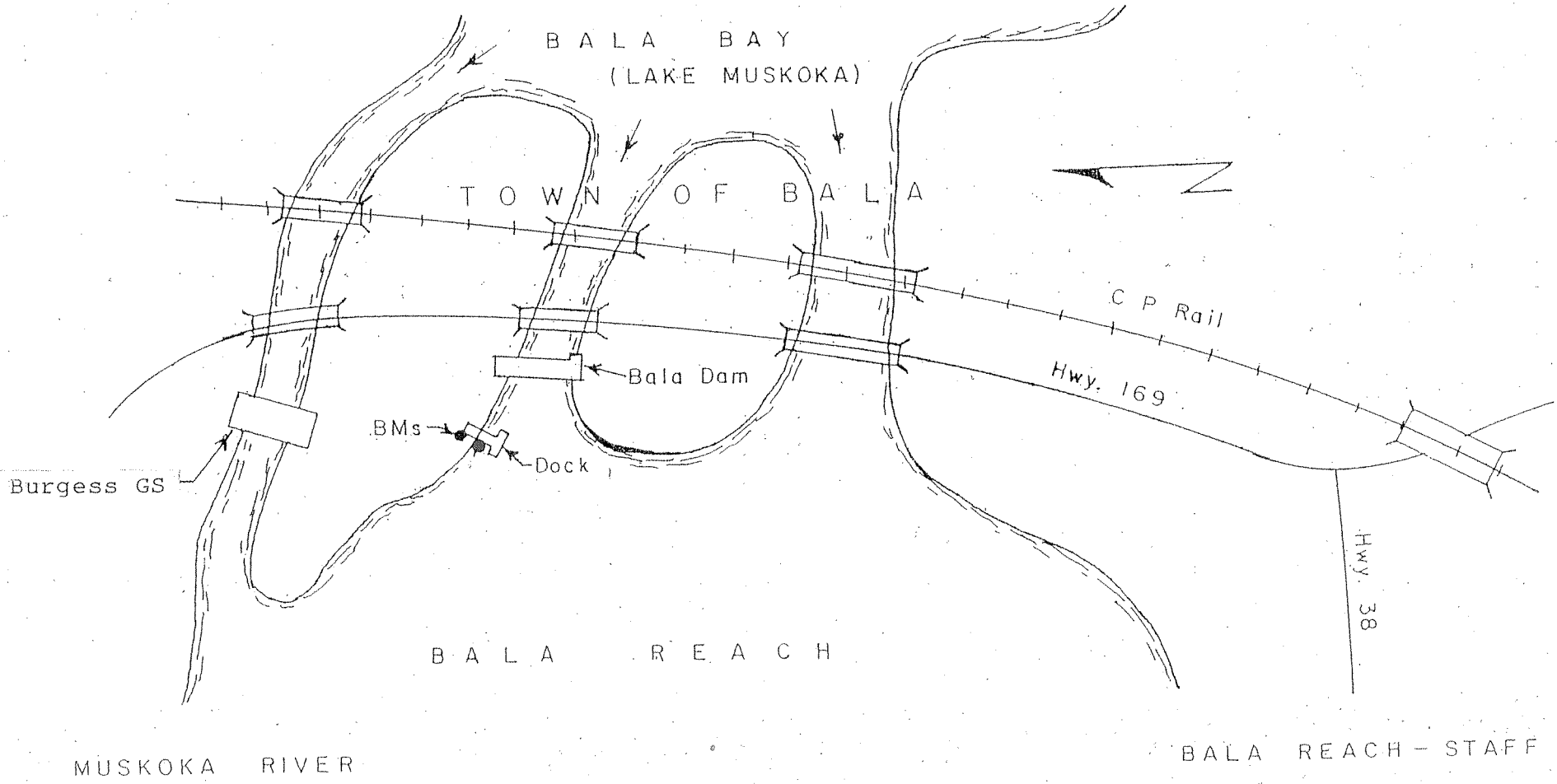
SCALE 1:250

5 2.5 0 5 10 m

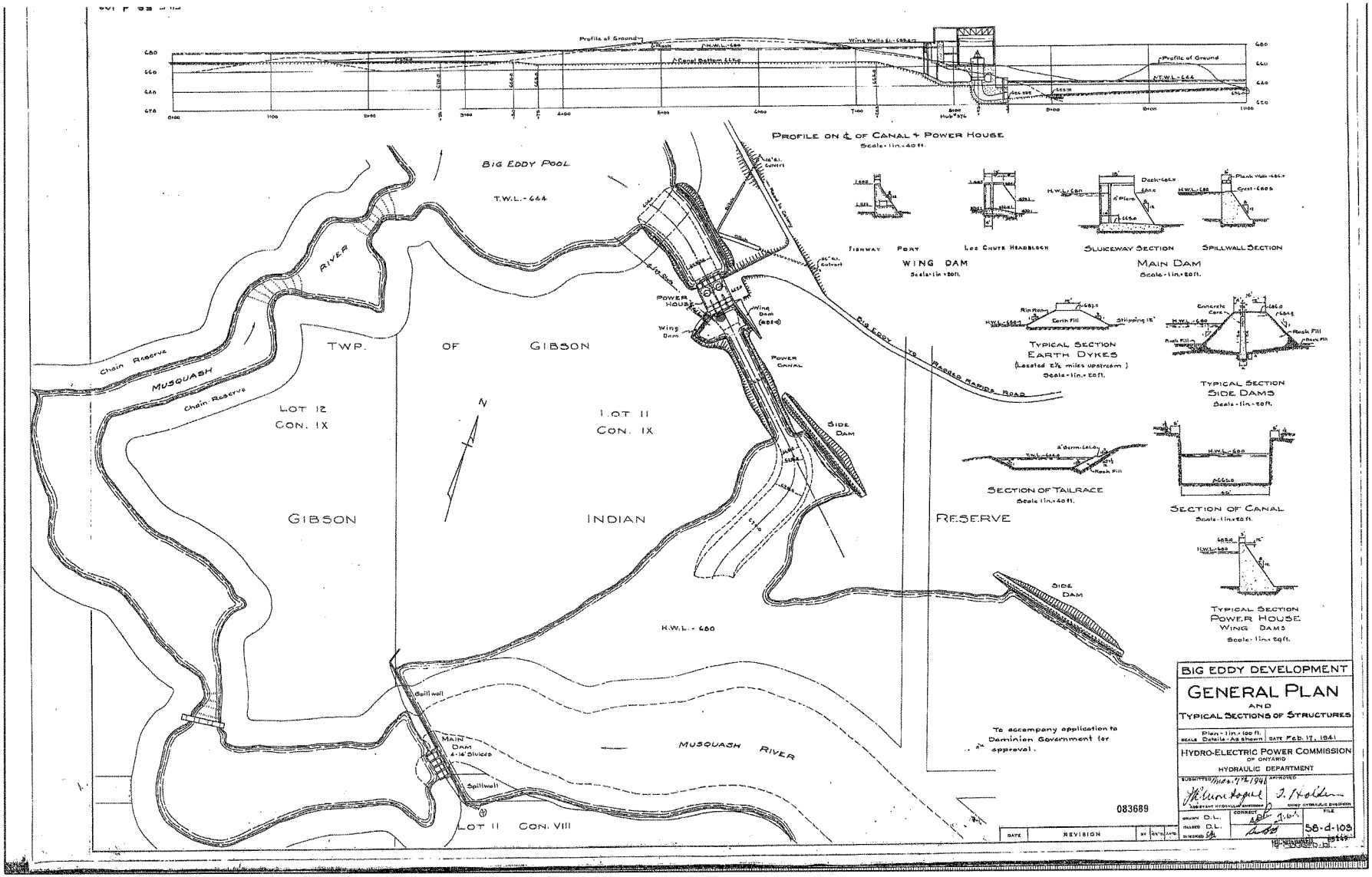
1:100

0 10 50 100 200 250 300 millimetres


N
E 633,700
E 633,800
E 633,900
SOUTH FALLS GS
25 12.5 0 25 50 m
1:500
millimetres
0 10 50 100 200 250 300



Bala Reach Water Level Gauge


Profile of Ground
Wing Walls El. 686.0
Profile of Ground
M.W.L. 680
Crest Elev. 665.0
Crest Elev. 665.0
M.T.W.L. 644
Sluice Bottom 644.0
Hub 676
PROFILE ON ℄ OF CANAL + POWER HOUSE
Scale - 1 in. = 40 ft.
BIG EDDY POOL
T.W.L. - 644
RIVER
Road to Gibson
36" dia. Culvert
POWER HOUSE
Wing Dam (686.0)
Wing Dam
Chain Reserve
MUSQUASH
Chain Reserve
TWP. OF GIBSON
POWER CANAL
BIG EDDY TO RAGGED RAPIDS ROAD
LOT 12 CON. IX
LOT 11 CON. IX
SIDE DAM
GIBSON INDIAN RESERVE
SIDE DAM
H.W.L. - 680
Spillwall
MAIN Dam 4-16' Sluices
Spillwall
MUSQUASH RIVER
LOT 11 CON. VIII
FISHWAY
PORT
LOG CHUTE HEADBLOCK
WING DAM
Scale - 1 in. = 20 ft.
SLUICEWAY SECTION
SPILLWALL SECTION
MAIN DAM
Scale - 1 in. = 20 ft.
Rim Road
Earth Fill
Stripping 12"
H.W.L. - 680
TYPICAL SECTION
EARTH DYKES
(Located 2½ miles upstream)
Scale - 1 in. = 20 ft.
Concrete Core
Rock Fill
TYPICAL SECTION
SIDE DAMS
Scale - 1 in. = 20 ft.
SECTION OF TAILRACE
Scale - 1 in. = 40 ft.
H.W.L. - 680
SECTION OF CANAL
Scale - 1 in. = 20 ft.
H.W.L. - 680
TYPICAL SECTION
POWER HOUSE
WING DAMS
Scale - 1 in. = 20 ft.
To accompany application to Dominion Government for approval.
083689
DATE
REVISION
BY
CHK'D
APP'D
BIG EDDY DEVELOPMENT
GENERAL PLAN
AND
TYPICAL SECTIONS OF STRUCTURES
Plan - 1 in. = 100 ft.
SCALE Details - As Shown
DATE Feb. 17, 1941
HYDRO-ELECTRIC POWER COMMISSION
OF ONTARIO
HYDRAULIC DEPARTMENT
SUBMITTED Nov. 7th 1941
APPROVED
ASSISTANT HYDRAULIC ENGINEER
CHIEF HYDRAULIC DIVISION
DRAWN D.L.
TRACED D.L.
CHECKED
CORRECT
FILE
58-d-103

Bracebridge Generation

- **High Falls GS**
- **Wilson Falls GS**
- **Bracebridge Falls GS**

Bracebridge Generation – Current locations and types of water level sensors

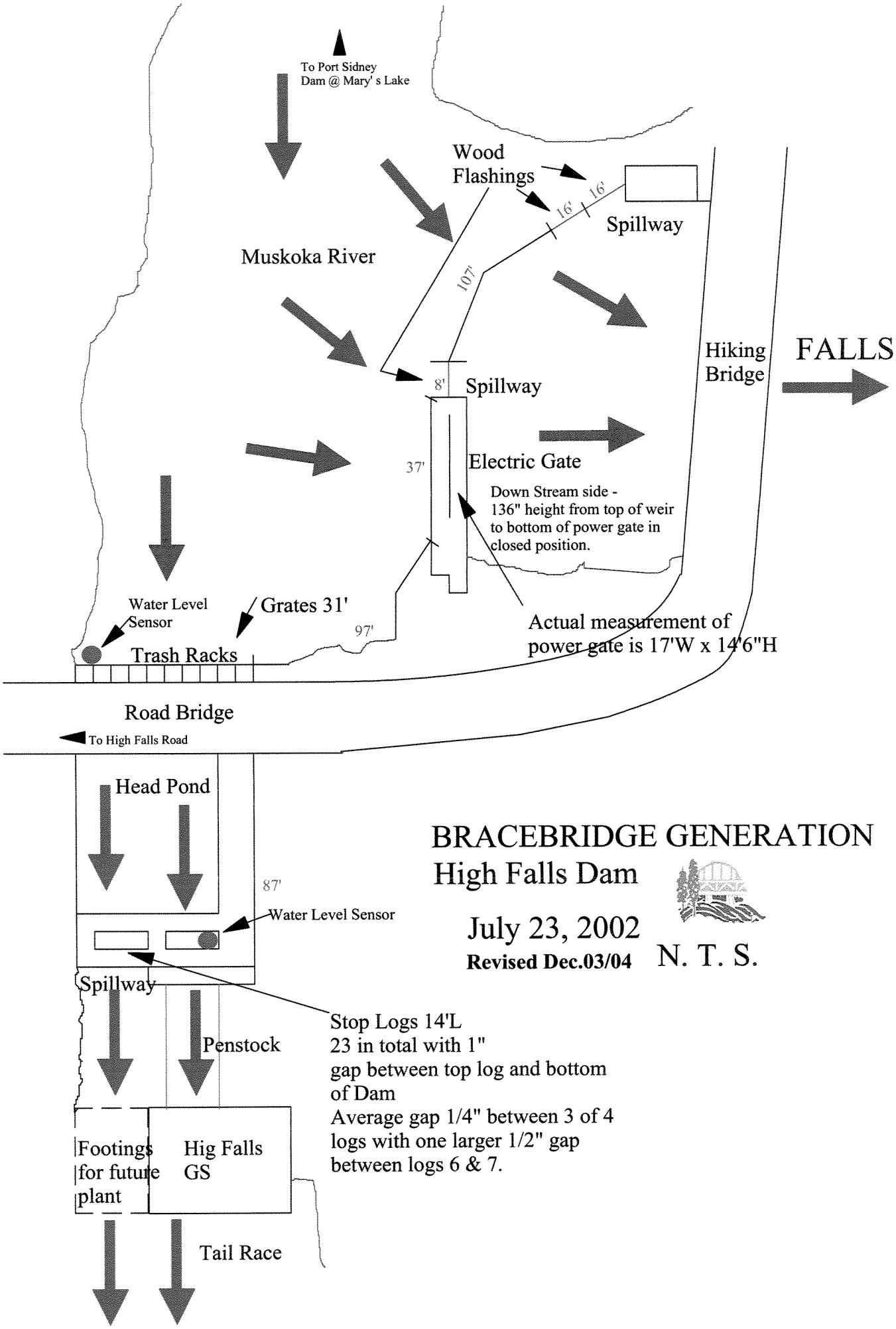
Locations

- HF at trash rack –one (1), at differential rack –one (1)
- WF at trash rack in Gate House – two (2)
- DT at trash rack in Gate House – two (2)

Make: Instrumentation Northwest – pressure transmitter #INW PS 9800
(Could be substituted for other manufactures)

Accuracy

- Range – 0 to 11.57 ft 4 – 20 mA
- Static accuracy = +/- 0.1% FSO (max.)
- Thermal = +/- 2.0% FSO (max.)
- Temperature = +/- 0.75 °C (max.)
- Different manufactures and models may make these figures vary accordingly.



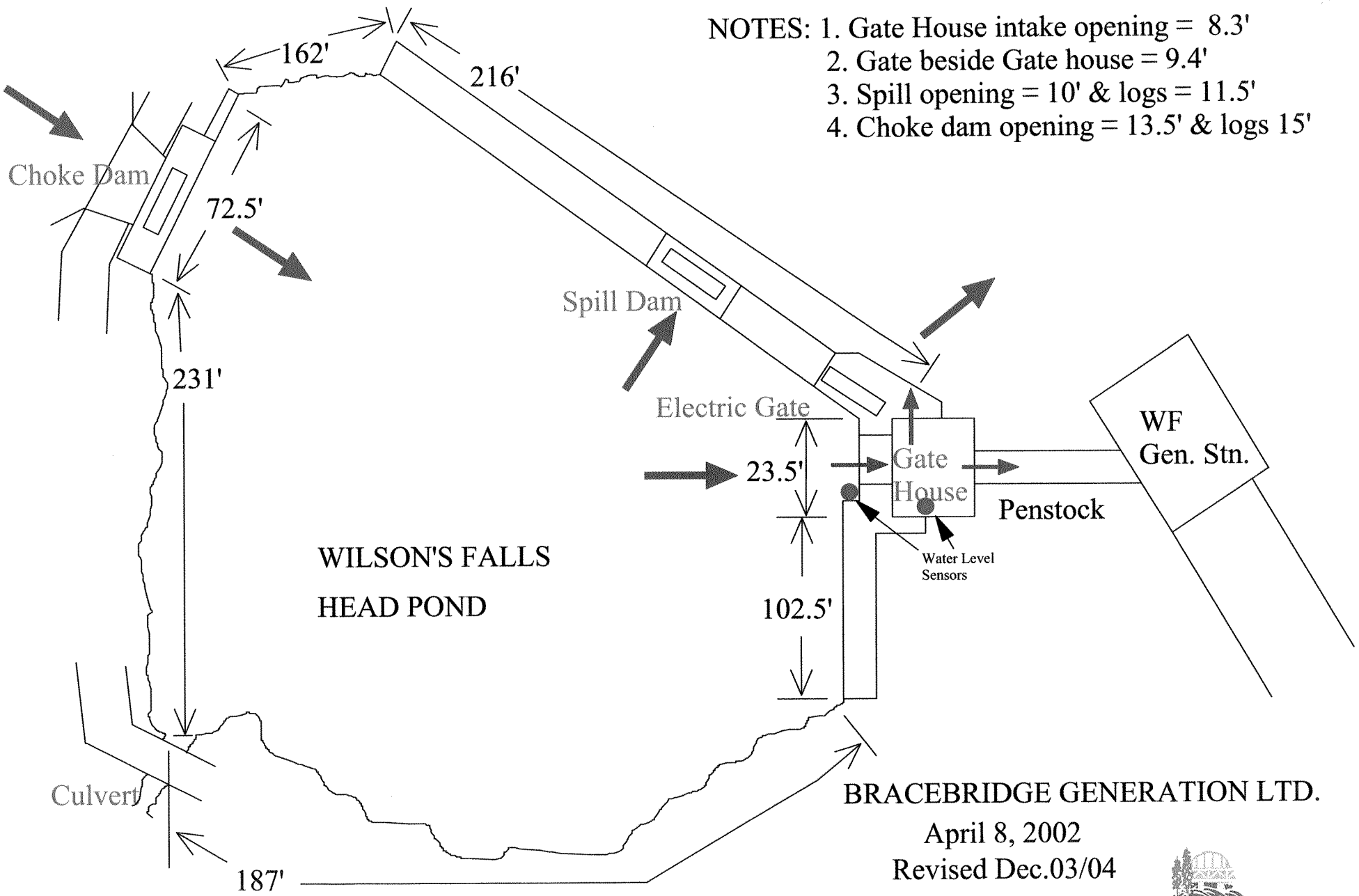
BRACEBRIDGE GENERATION

High Falls Dam

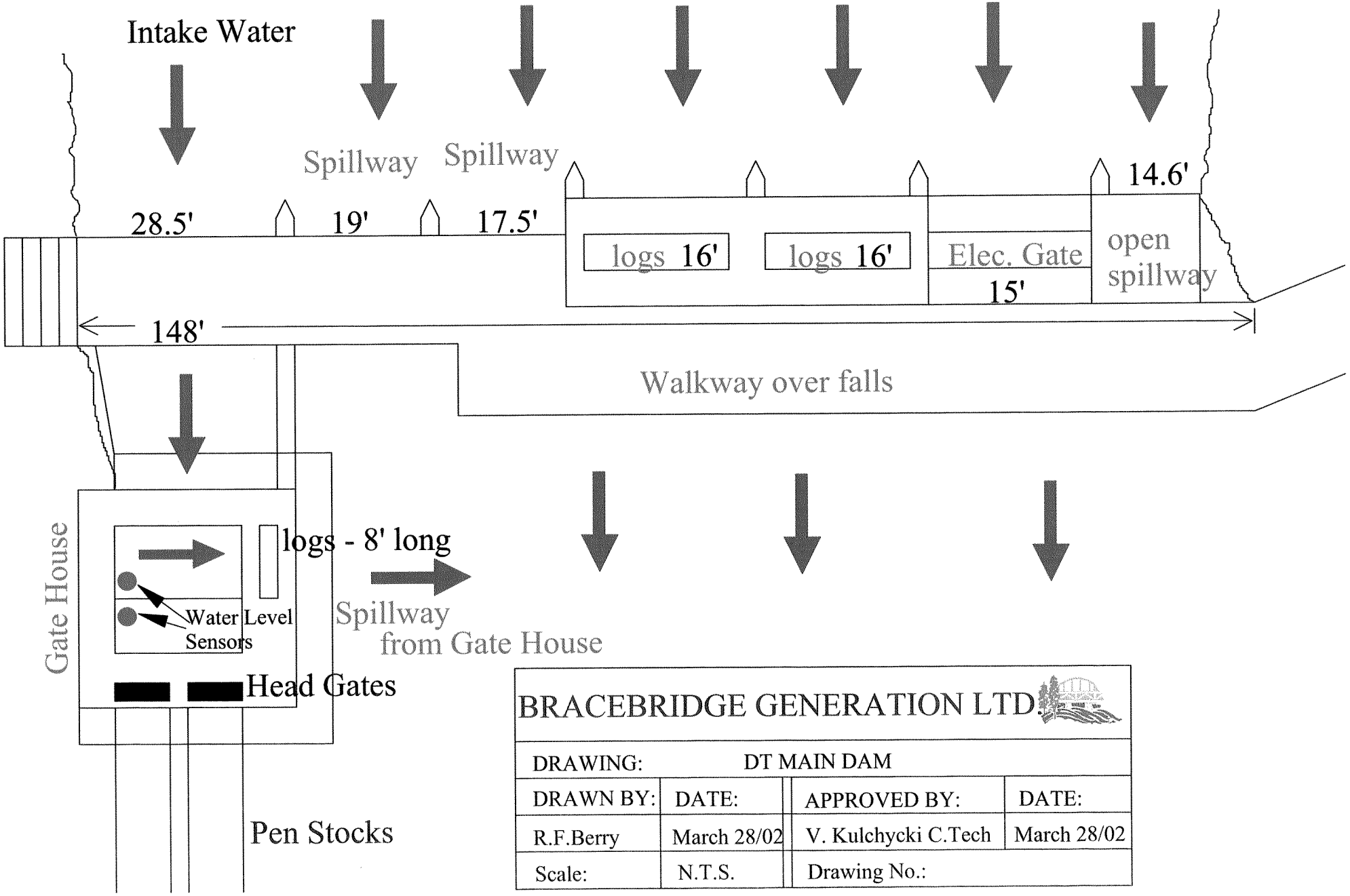
July 23, 2002

Revised Dec.03/04

N. T. S.


NOTES: 1. Gate House intake opening = 8.3'
2. Gate beside Gate house = 9.4'
3. Spill opening = 10' & logs = 11.5'
4. Choke dam opening = 13.5' & logs 15'
162'
216'
Choke Dam
72.5'
231'
Spill Dam
Electric Gate
23.5'
Gate House
WF Gen. Stn.
Penstock
Water Level Sensors
WILSON'S FALLS
HEAD POND
102.5'
Culvert
187'
BRACEBRIDGE GENERATION LTD.
April 8, 2002
Revised Dec.03/04
N. T. S.

BRACEBRIDGE FALLS DAM



BRACEBRIDGE GENERATION LTD.			
DRAWING:	DT MAIN DAM		
DRAWN BY:	DATE:	APPROVED BY:	DATE:
R.F.Berry	March 28/02	V. Kulchycki C.Tech	March 28/02
Scale:	N.T.S.	Drawing No.:	

Orillia Power Generation

- **Matthias GS**

Memorandum

To: File

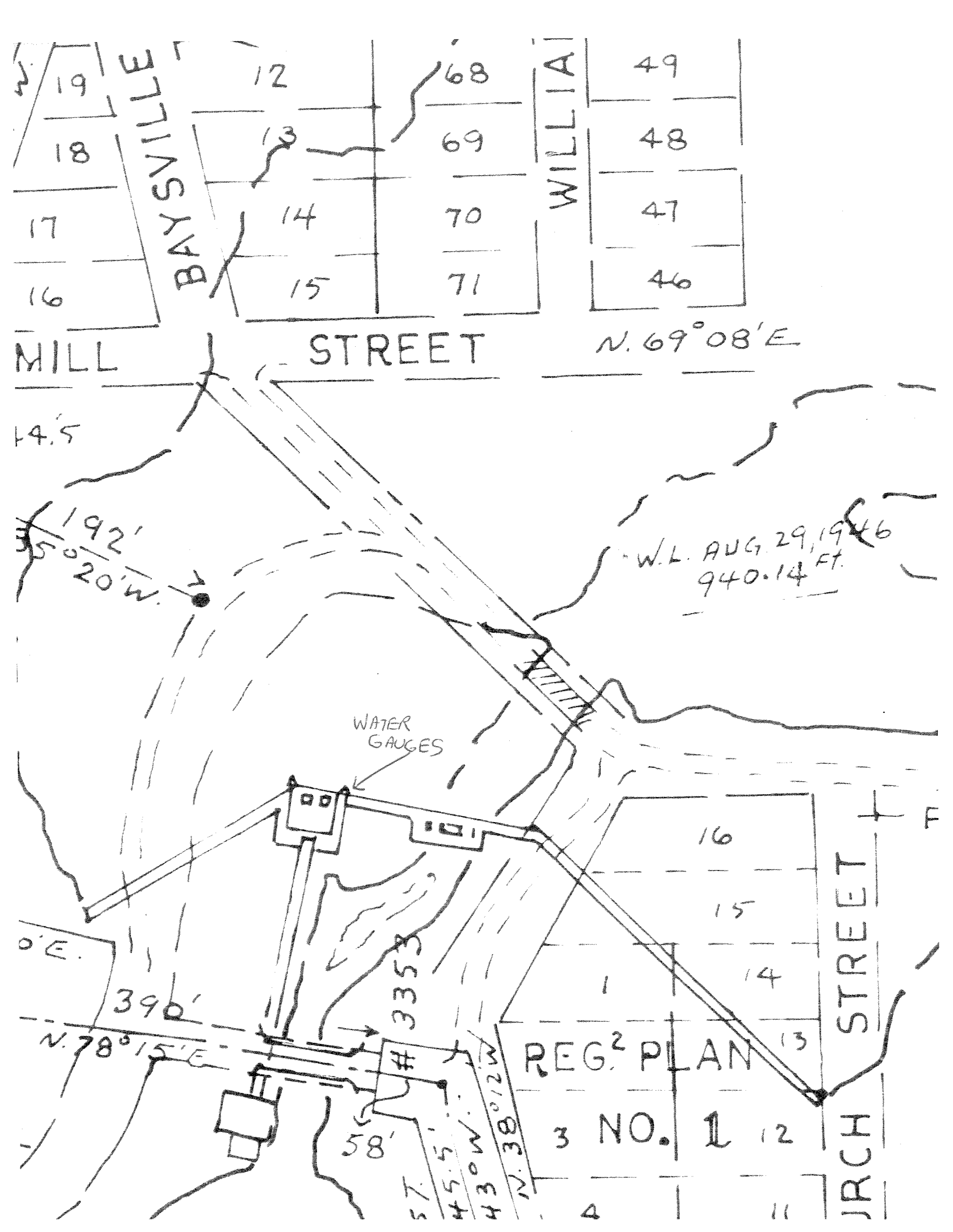
From: David Hawkins

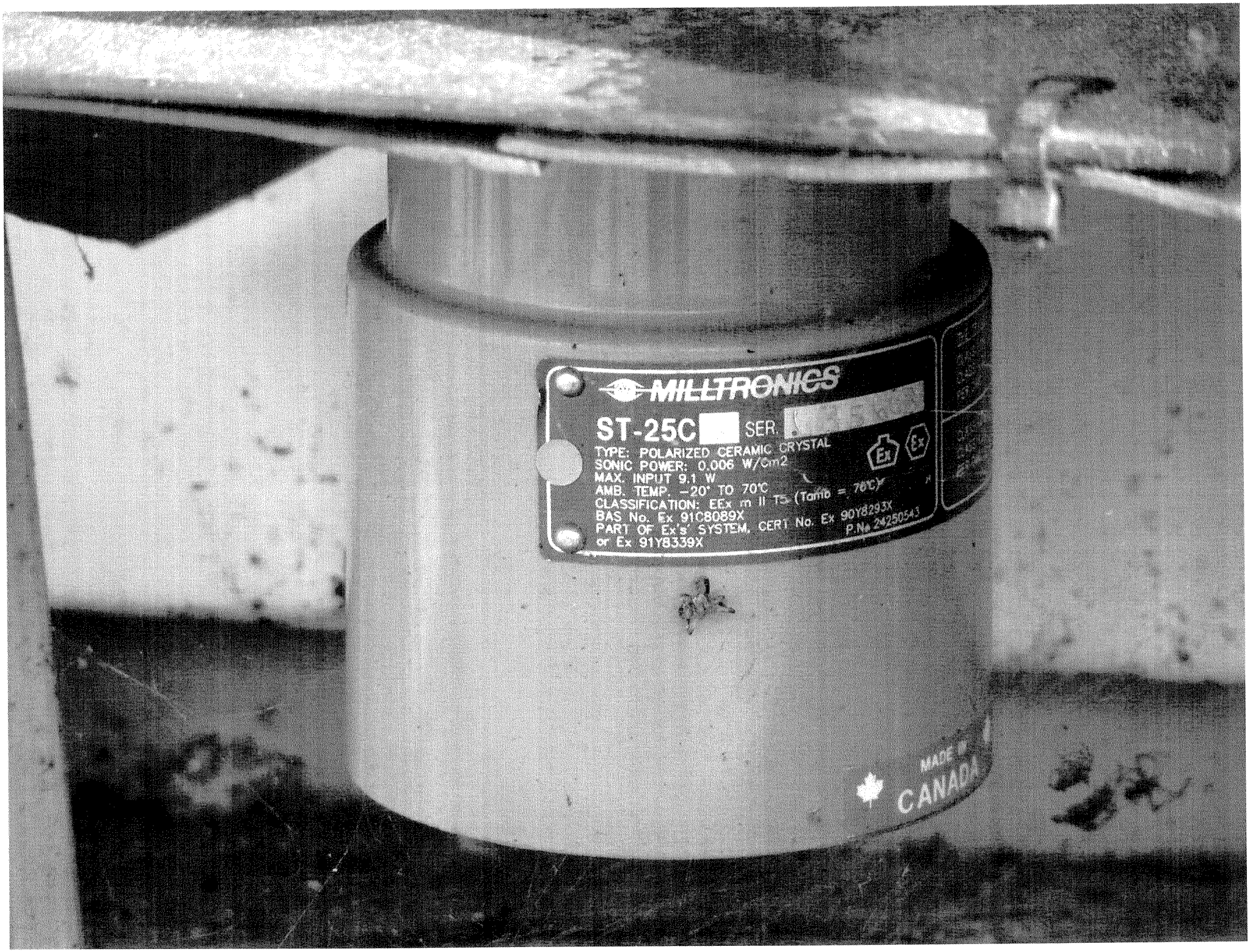
Date: December 2, 2004

Re: Matthias Fore bay Water Level Gauge

The Matthias electronic fore bay Water Level Gauge is located to the south side of the southern most intake pier on the top of the dam. It is an ultrasonic MultiRanger type gauge made by Milltronics. It is calibrated to read from 291.0 to 293.5 meters above sea level with a one percent accuracy.

The Matthias manual gauge is located on top of the dam just to the south of the electronic gauge. It has a range of 291.0 to 294.0 meters of fore bay elevation. The gauge is marked in 0.02 meter increments.


19
18
17
16
BAYSVILLE
12
13
14
15
68
69
70
71
WILLIA
49
48
47
46
MILL
STREET
N. 69° 08' E.
14.5
192'
5° 20' W.
W.L. AUG. 29, 1946
940.14 FT.
WATER
GAUGES
16
15
14
13
1
F
STREET
0' E.
396'
N. 78° 15' E.
335'
#
58'
N. 38° 12' W.
REG.D PLAN
NO. 1
3
12
4
11
JRCH


MILLTRONICS
ST-25C SER.
TYPE: POLARIZED CERAMIC CRYSTAL
SONIC POWER: 0.006 W/cm2
MAX. INPUT 9.1 W
AMB. TEMP. -20° TO 70°C
CLASSIFICATION: EEx m II T5 (Tamb = 70°C)
BAS No. Ex 91C8089X
PART OF Ex's SYSTEM, CERT No. Ex 90Y8293X
or Ex 91Y8339X
P.No 24250543
MADE IN CANADA

